ORDER NO. SD 7507-1026

Service Manual

Player

SL-1360-(ES)-(FE)

* This service manual includes only the changes of SL-1350-(M/MC) service manual (ORDER NO. SD 7506-1009).
* This manual should be filed with the service manual for model SL-1350-(M/MC) (ORDER NO. SD 7506-1009).
* When servicing model SL-1360, this service manual and SL-1350-(M/MC) (ORDER NO. SD 7506-1009) service manual should be used together.

CHANGES

■ PARTS LIST

● Additional
○ Deletion

Ref. No.	Change of Part No. SL-1350-(M/MC) →	SL-1360-(ES)-(FE)	Description	Per Set (Pcs.)	Remarks
4	SFAC135M01E	SFAC136E01	Player case	1	
16-2	ECQM6473MZ	ECQE10473MZ	Capacitor	1	
16-5	XBAS2B0201	XBA2C03TR0U	Fuse 315 mA	1	
16-6	XTN3+8BFU	XBA2C10NSS	Fuse 1.0 A	1	
16-7	●	XTN3+8BFU	Screw for terminal strip	1	
18	SFHK040L	○	Bushing for AC power cord	0	
18-1	●	SFUM130X01	Supporting plate for voltage selector switch	1	
18-2	●	SFUM130X02	Clamper for AC power cord	1	
18-3	●	SSRA1	Voltage selector switch	1	
18-4	●	XSN3+6FV	Screw	1	
18-5	●	XSN3+12FV	Screw	2	
18-6	●	XTN3+10CFU	Screw	2	
19	SPT-1	SJA67	AC power cord	1	
21	MPT-006	F3323	Power Transformer	1	
51	SFPAM13003K	SFPAM13004K	Arm unit assembly	1	
54	SFPKD13002	SFPKD13001	Arm base	1	
P1	SFHP135M01	SFHP136E01	Inside packing case	1	
P9	SFNU135M01	SFNU136E01	Printed matter	1	
P9	SFNU135C01	○		0	
P11	●	SFHP136E02	Outside packing case	1	
	●	SFDK100G	DIN-PIN Adaptor	1	
		QJP0603S	Zimens Adaptor	1	

Technics
by Panasonic

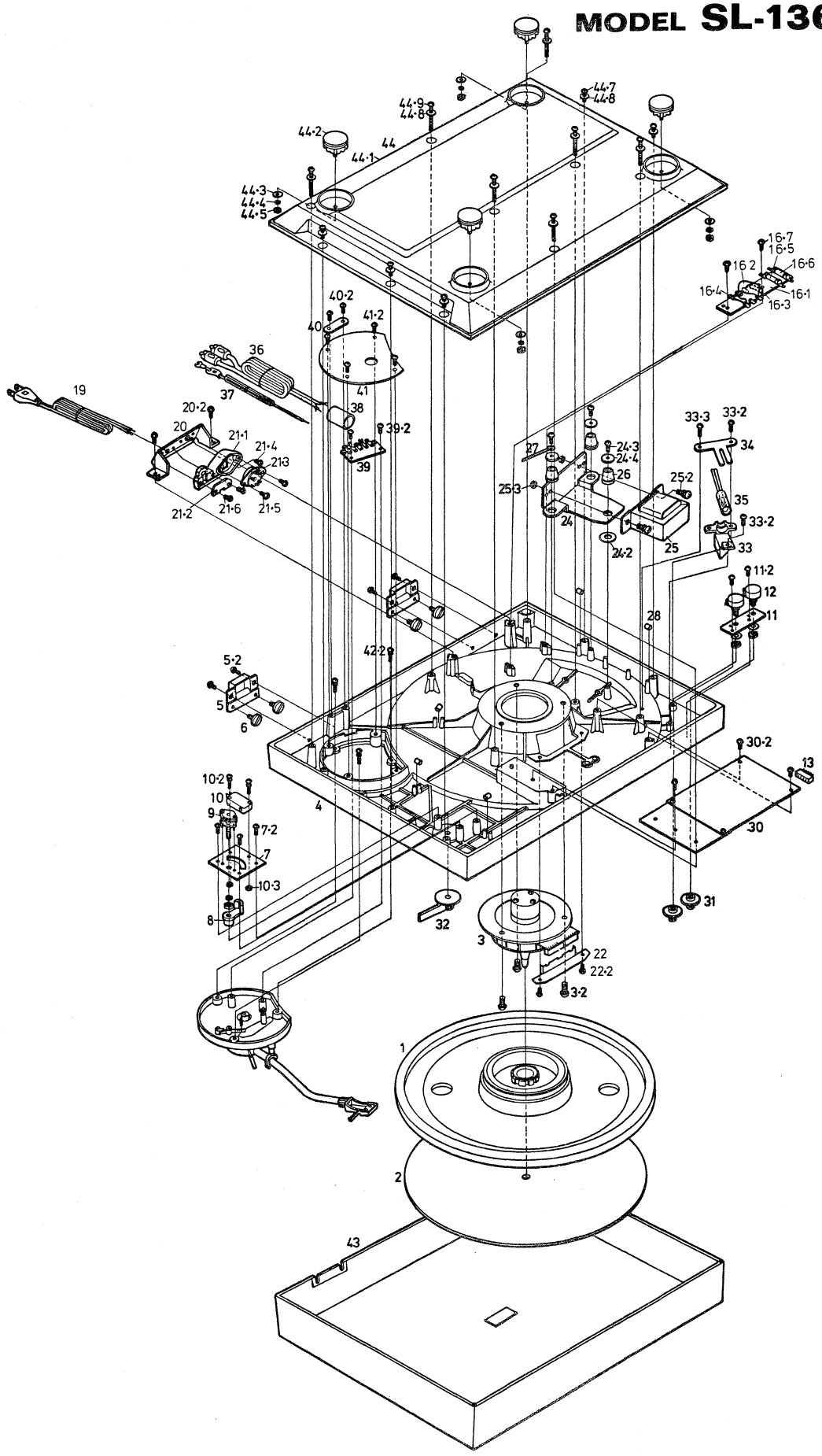
Matsushita Electric Corp. of America
50 Meadowlands Parkway, Secaucus, N.J. 07094

Matsushita Electric of Hawaii, Inc.
320 Waiakamilo Road, Honolulu, HaWaii 96817

Matsushita Electric of Canada Ltd.
40 Ronson Drive Rexdale, Ont

EXPLODED VIEW OF DIRECT DRIVE PLAYER

MODEL SL-1360



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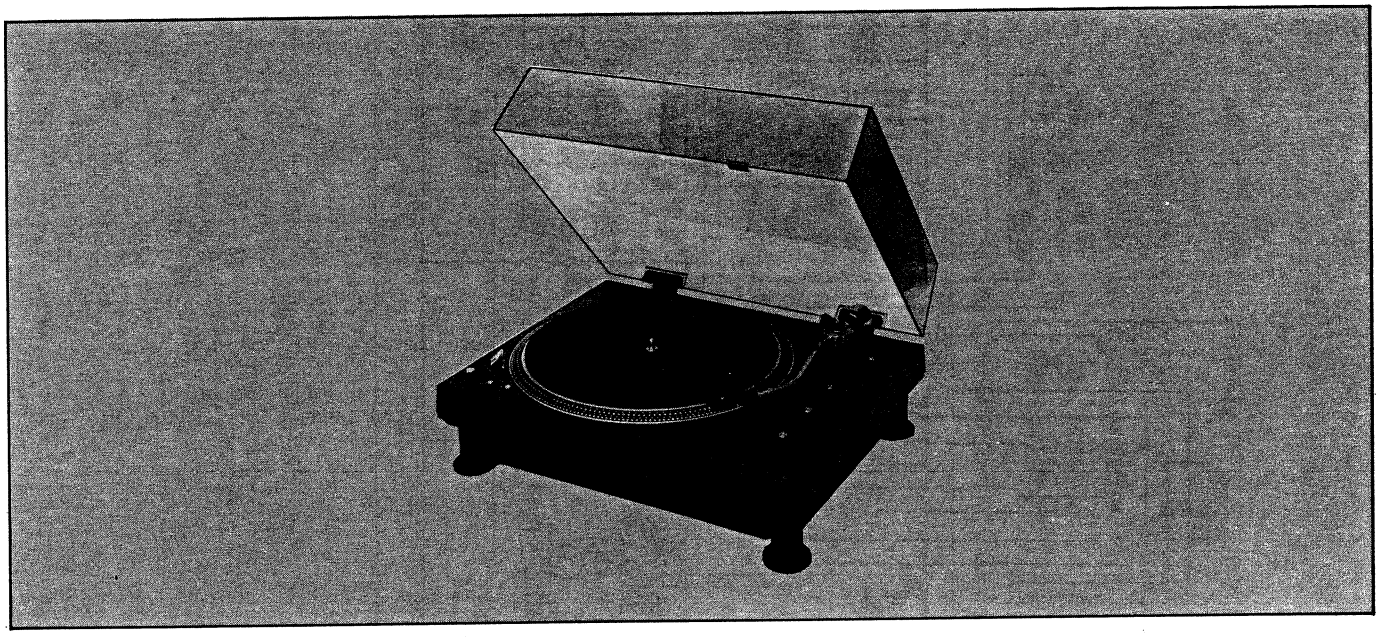
ORDER NO. SD7506-1009

Service Manual

Player

SL-1350
-(M/MC)



11 SPECIFICATIONS

(TURNTABLE SECTION)

Type .....Automatic player system
Manual play, Repeat play and Multiple play
Drive method .....Direct drive
Motor .....Ultra-low speed brushless DC motor
Turntable platter .....Aluminium die-cast, 33 cm (13 inches) diameter
Turntable speeds.....33-1/3 and 45 r.p.m.
Speed change method ..Electronic change
Pitch controls .....Individual adjustment controls, 10% adjustment range
Wow and flutter ..... 0.04% (JIS C5521) W. R.M.S.
±0.055% (DIN 45507) W. zero to peak
Rumble ..... −58 dB (IEC 179B)
−45 dB (DIN 45539A)
−70 dB (DIN 45539B)

(GENERAL)

Power supply .....~120 V, 50 or 60 Hz
Power consumption ....6.5 W
Dimensions .....45.3 × 36.6 × 19.9 cm (W × D × H)
17-3/4 × 14-3/8 × 7-27/32 inches
Weight .....9.4 kg (20.7 lbs.)

(TONEARM SECTION)

Type .....Universal "S" shaped tubular arm, static-balanced type, direct-reading stylus pressure adjustment, with anti-skating force control device and cueing device
Effective length .....230 mm (9-1/16 inches)
Overhang .....52 mm (2-3/64 inch)
Tracking error angle ....Within +3° (at the point 150 mm (5-1/8") from the center)
Within +1° (at the point 55 mm (2-3/16") from the center)
Offset angle .....21.5°
Stylus pressure adjustment range ....0 to 3 g
Cartridge weight range ..5 to 11 g
Head-shell weight .....9.5 g

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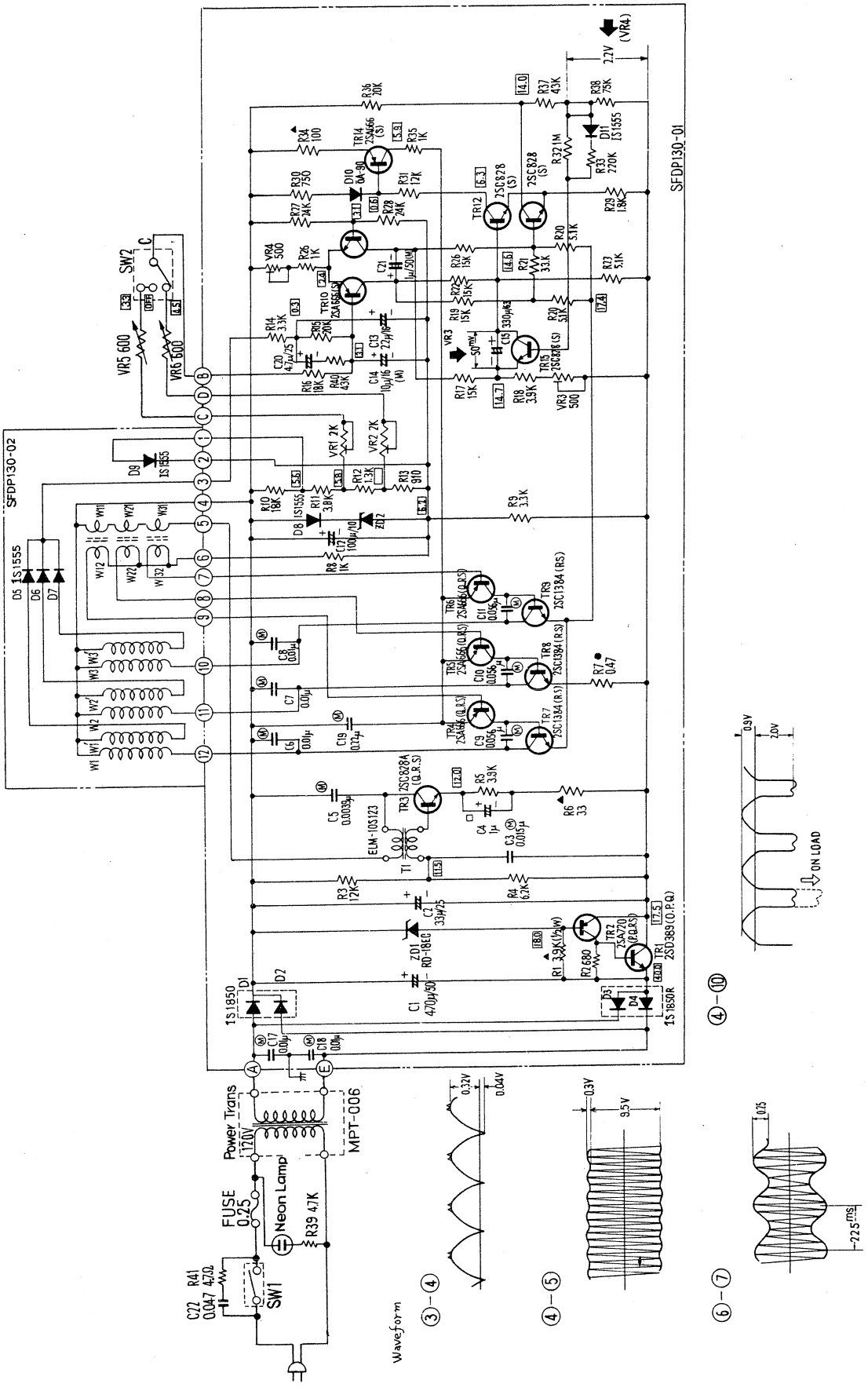
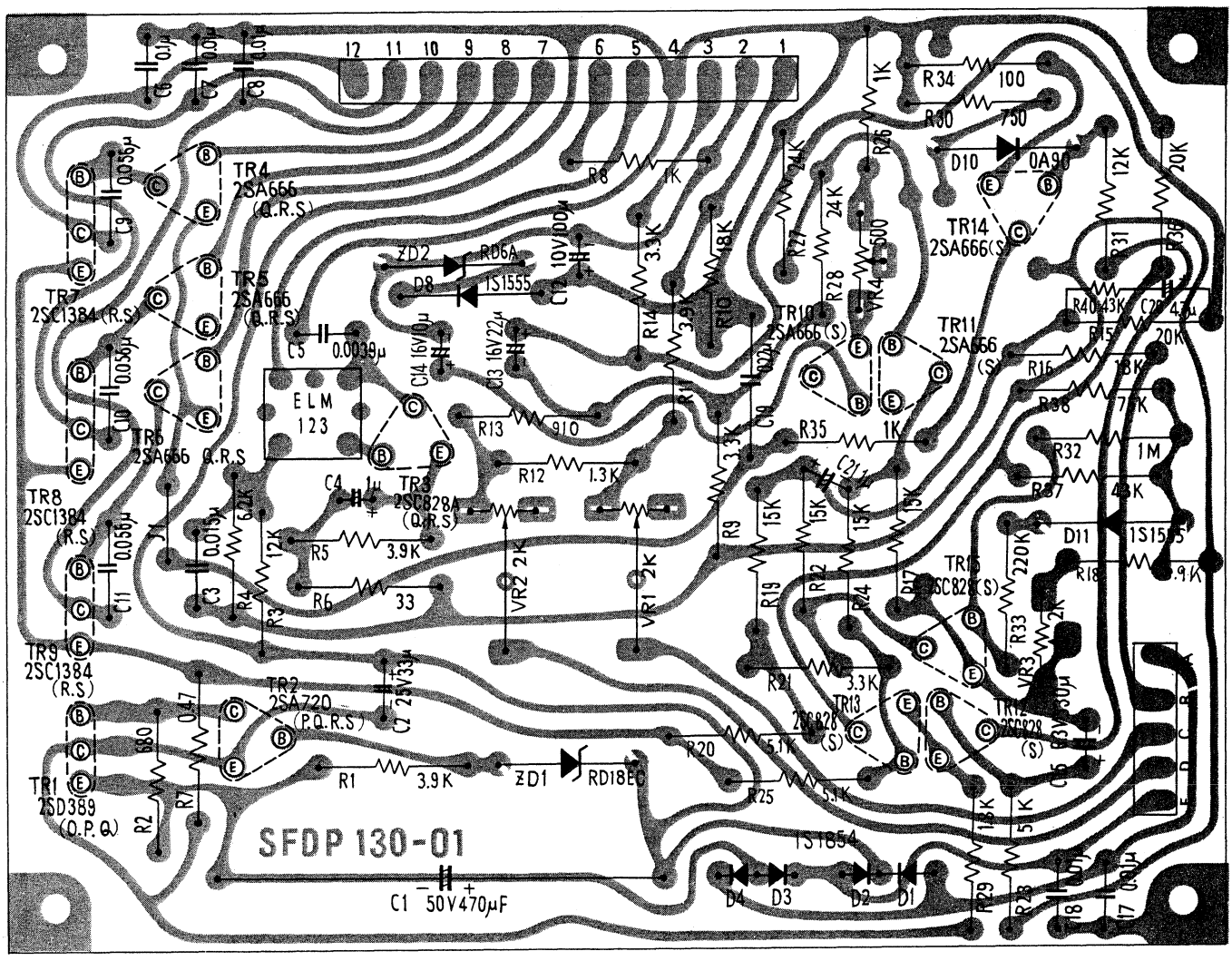
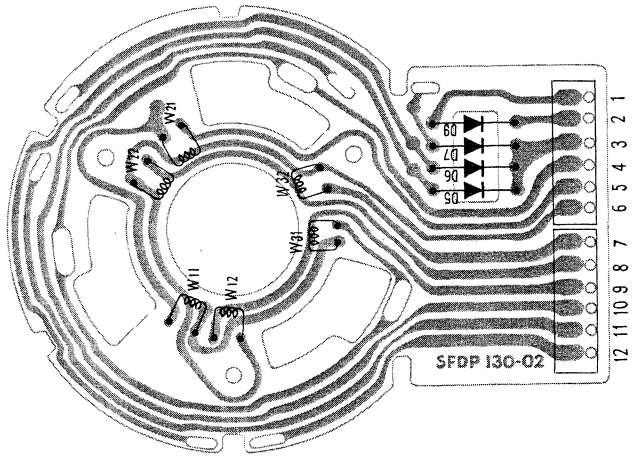
SCHEMATIC DIAGRAM MODEL SL-1350



CIRCUIT BOARD



Circuit Plate



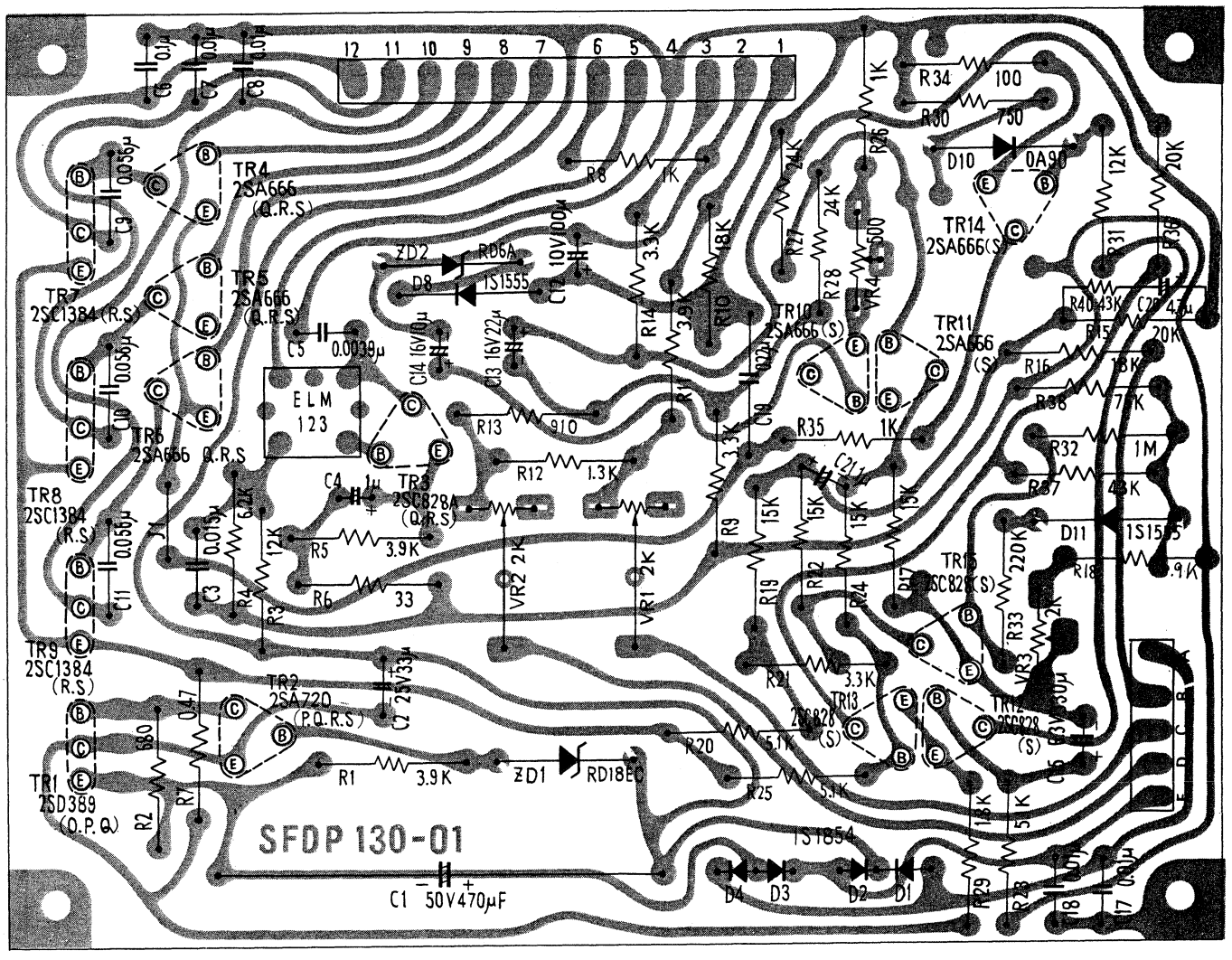
Motor

TROUBLE SHOOTING GUIDE

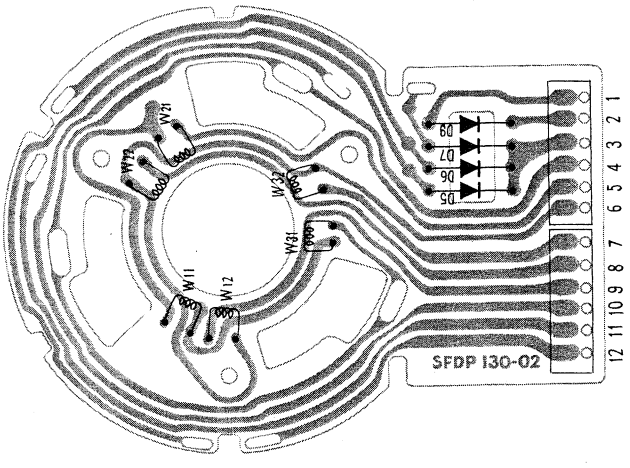
* Except when checking voltage, disconnect the power cord before repair without fail.

TROUBLE	CAUSE	REMEDY
Turntable Speed A. Switching on does not cause turntable to rotate.	Remove back cover and, using DC voltmeter, check printed base voltage: 1. No output of constant-voltage circuit (between Tr1 collector and 4) is found. (1) No output on secondary of transformer. * Cord disconnected. * Soldered improperly. Fuse disconnected. * Power transformer defective. (2) Output found on secondary of transformer. * Constant-voltage circuit parts (ZD1), Tr1, Tr2) defective. 2. Output of constant-voltage circuit is 17~20V. * 3-phase switching circuit (Tr4 ~ Tr9), oscillator circuit (Tr3) defective. Tr14 defective. 3. Power Switch is not ON. * Micro switch defective. 4. Speed selector switch defective. * Contact faulty * Soldered improperly.	 * Replace cord. * Solder securely. * Replace fuse. * Replace power transformer. * Replace printed base assembly. * Replace printed base assembly. * Replace micro switch. * Replace speed selector switch. * Solder securely.
B. Turntable speed too fast.	1. Constant-voltage output is not 17~20V. * Constant-voltage circuit parts (ZD1, Tr1, Tr2) defective. 2. Constant-voltage output is 17V~20V. * Diodes D8, D9, ZD2 defective. * Diodes D5, D6, D7 shorted. * Speed maladjusted.	* Replace printed base assembly. * Replace printed base assembly. * Replace motor. (Stater frame Ass'y). * Adjust semi-fixed resistor VR1 & VR2.
C. Turntable speed too slow.	1. Constant-voltage output is not 17~20V. * Constant-voltage parts (ZD1, Tr1, Tr2, defective.) 2. Constant-voltage output is 17~20V. * Diodes D8, D9, ZD2 defective. * Speed unadjusted.	* Replace printed base assembly. * Replace printed base assembly. * Adjust semi-fixed resistor VR1 & VR2.
D. Turntable speed varies too much.	* Trouble in 3-phase switching circuit.	* Replace printed base assembly.
E. Turntable, after stopped by hand, will not turn or starts turning but will stop soon.	* 3-phase switching circuit defective.	* Replace printed base assembly.
F. Operative at only one of two speeds. (33-1/3 rpm, 45 rom)	* Selector switch defective. * Lead disconnected or unsoldered. * Contact of Vr1, Vr2 insufficient.	* Replace selector switch. * Replace lead, or solder securely. * Replace printed base assembly.
G. When actuating, turntable speed is unsteadly for along time.	* Semi-fixed resistor VR3 & VR4 unadjusted.	* Make it become 50mV at both ends of C15 with semi-fixed resistor VR3. * Make it become 2.2V at both ends of R38 with semi-fixed resistor VR4.
Noise Offensive noise is hears.	* Power transformer makes loud noise of vibration. * Broken part of rotor magnet of iron chips attracted by magnet and rubbed by motor case.	* Replace power transformer. * Remove iron chips.

CIRCUIT BOARD



Circuit Plate



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B. Turntable speed too fast.	1. Constant-voltage output is not 17~20V. * Constant-voltage circuit parts (ZD1, Tr1, Tr2) defective. 2. Constant-voltage output is 17V~20V. * Diodes D8, D9, ZD2 defective. * Diodes D5, D6, D7 shorted. * Speed maladjusted.	* Replace printed base assembly. * Replace printed base assembly. * Replace motor. (Stater frame Ass'y). * Adjust semi-fixed resistor VR1 & VR2.
C. Turntable speed too slow.	1. Constant-voltage output is not 17~20V. * Constant-voltage parts (ZD1, Tr1, Tr2, defective.) 2. Constant-voltage output is 17~20V. * Diodes D8, D9, ZD2 defective. * Speed unadjusted.	* Replace printed base assembly. * Replace printed base assembly. * Adjust semi-fixed resistor VR1 & VR2.
D. Turntable speed varies too much.	* Trouble in 3-phase switching circuit.	* Replace printed base assembly.
E. Turntable, after stopped by hand, will not turn or starts turning but will stop soon.	* 3-phase switching circuit defective.	* Replace printed base assembly.
F. Operative at only one of two speeds. (33-1/3 rpm, 45 rom)	* Selector switch defective. * Lead disconnected or unsoldered. * Contact of Vr1, Vr2 insufficient.	* Replace selector switch. * Replace lead, or solder securely. * Replace printed base assembly.
G. When actuating, turntable speed is unsteadly for along time.	* Semi-fixed resistor VR3 & VR4 unadjusted.	* Make it become 50mV at both ends of C15 with semi-fixed resistor VR3. * Make it become 2.2V at both ends of R38 with semi-fixed resistor VR4.
Noise Offensive noise is hears.	* Power transformer makes loud noise of vibration. * Broken part of rotor magnet of iron chips attracted by magnet and rubbed by motor case.	* Replace power transformer. * Remove iron chips.

ADJUSTMENT INSTRUCTION

❶PITCH CONTROLS (See Fig. 1)

*Turn either knob clockwise or counterclockwise, as necessary, to reduce or increase the speed of turntable rotation.

Clockwise rotation ....The speed of the turntable platter will decrease.

Rotate counterclockwise if the dots seem to be "**running ahead**"; i.e., seem to be moving clockwise, until they appear stationary.

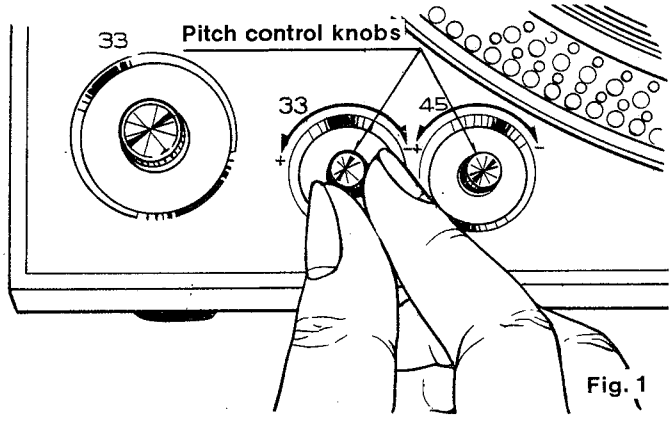


Fig. 1

Counterclockwise rotation .....The speed of the turntable platter will increase.

Rotate clockwise if the strobe dots illuminated by strobe illuminator/pilot lamp, seem to be "**falling back**"; i.e., seem to be moving counterclockwise. When the dots appear to be stationary, turntable speed is accurate.

NOTE

Any change in powerline frequency will also cause a change of the fluctuation rate of the neon lamp or fluorescent lamp used for illumination of the strobe dots.

In such case the strobe dots will appear to move very slightly under normal conditions. The powerline frequency from electric utility companies is normally extremely stable without frequency fluctuation. Under certain abnormal conditions, however, changes in line frequency have been observed, averaging to about 0.2% when measured over a period of time.

If this happens, the strobe dots will move very slowly. Such change in line frequency will in no way affect the quality of the sound reproduction, as line frequency change does not change the rate of turntable rotation.

❷SPEED ADJUSTMENT (See Fig. 2))

If for any reason, the speed adjustment cannot be made by the pitch control knobs, turn these screws clockwise or counterclockwise with a (−) screw driver.

Clockwise .....The speed will slow down.

Counterclockwise ....The speed will speed up.

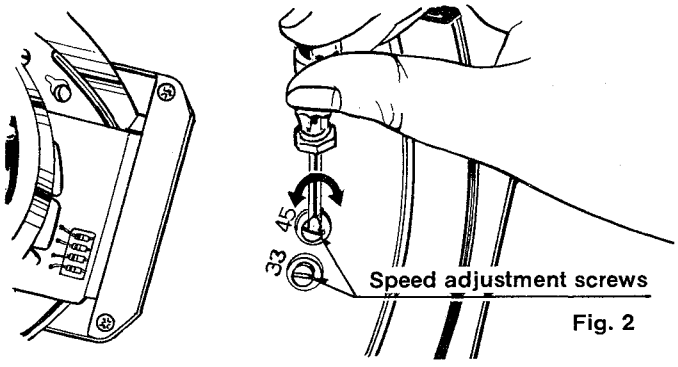


Fig. 2

❸ARM LIFT HEIGHT (CUEING LEVER) (See Figs. 3 and 4)

The space between the stylus tip and record surface, when the cueing lever is raised, has been adjusted from 5 to 10 mm (3/16" to 25/64").

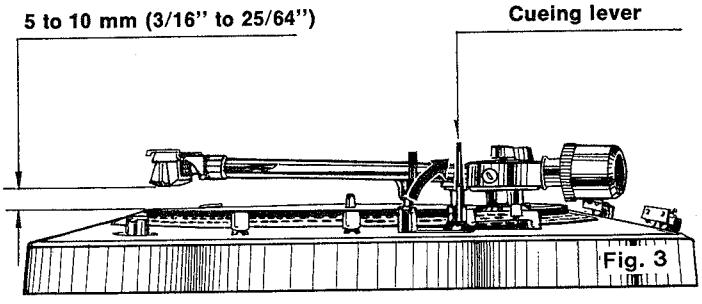


Fig. 3

If, for any reason, it is not correct, turn the adjustment screw clockwise or counterclockwise while pushing down on the arm lift.

NOTE

*Be sure to push down on the arm lift when you turn this screw.

Clockwise .....to lower the arm.

Counterclockwise ....to raise the arm.

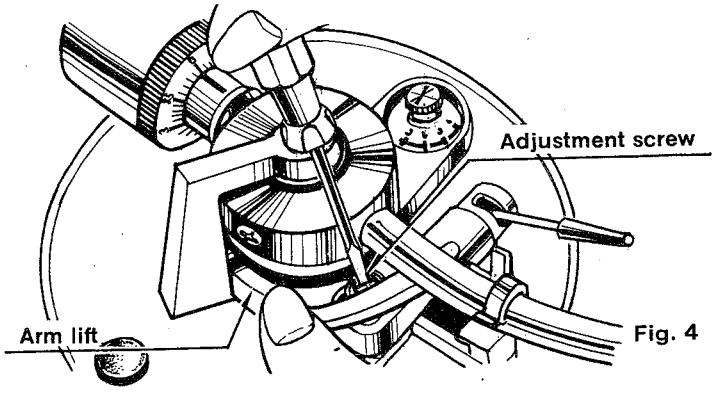


Fig. 4

❹STYLUS SET-DOWN POINT (See Fig. 5)

*To be adjusted if the tonearm fails to set-down at the right starting point at the beginning of the record.

Rubber cap above adjustment must be removed.

Clockwise rotation ....This will move the set-down point inward, toward the record center.

Counterclockwise rotation .....This will move the set-down point outward, away from the record center.

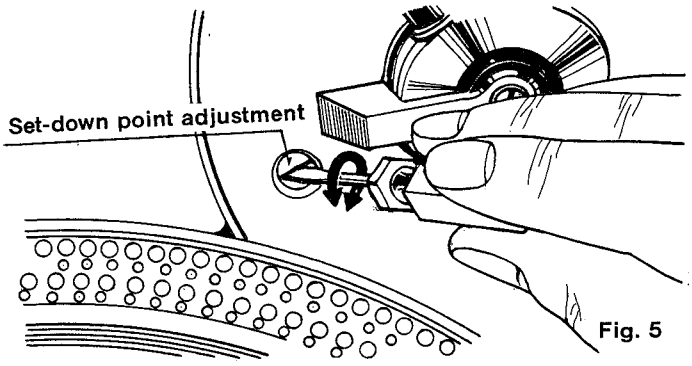


Fig. 5

❺TONEARM RETURN POINT (See Fig. 6)

*In some cases, the tonearm will tend to return to its rest position before playing has finished. In other cases, it may fail to return to the rest position even after playing the last groove of the record.

*Rotate this screw to correct for either condition.

Clockwise rotation ....The tonearm will return to its rest later.

Counterclockwise rotation .....The tonearm will return to its rest earlier.

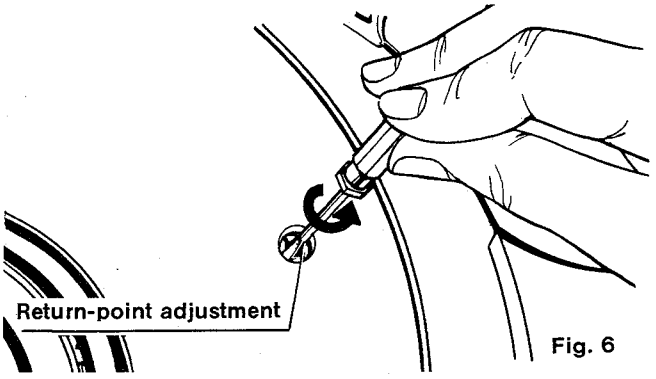
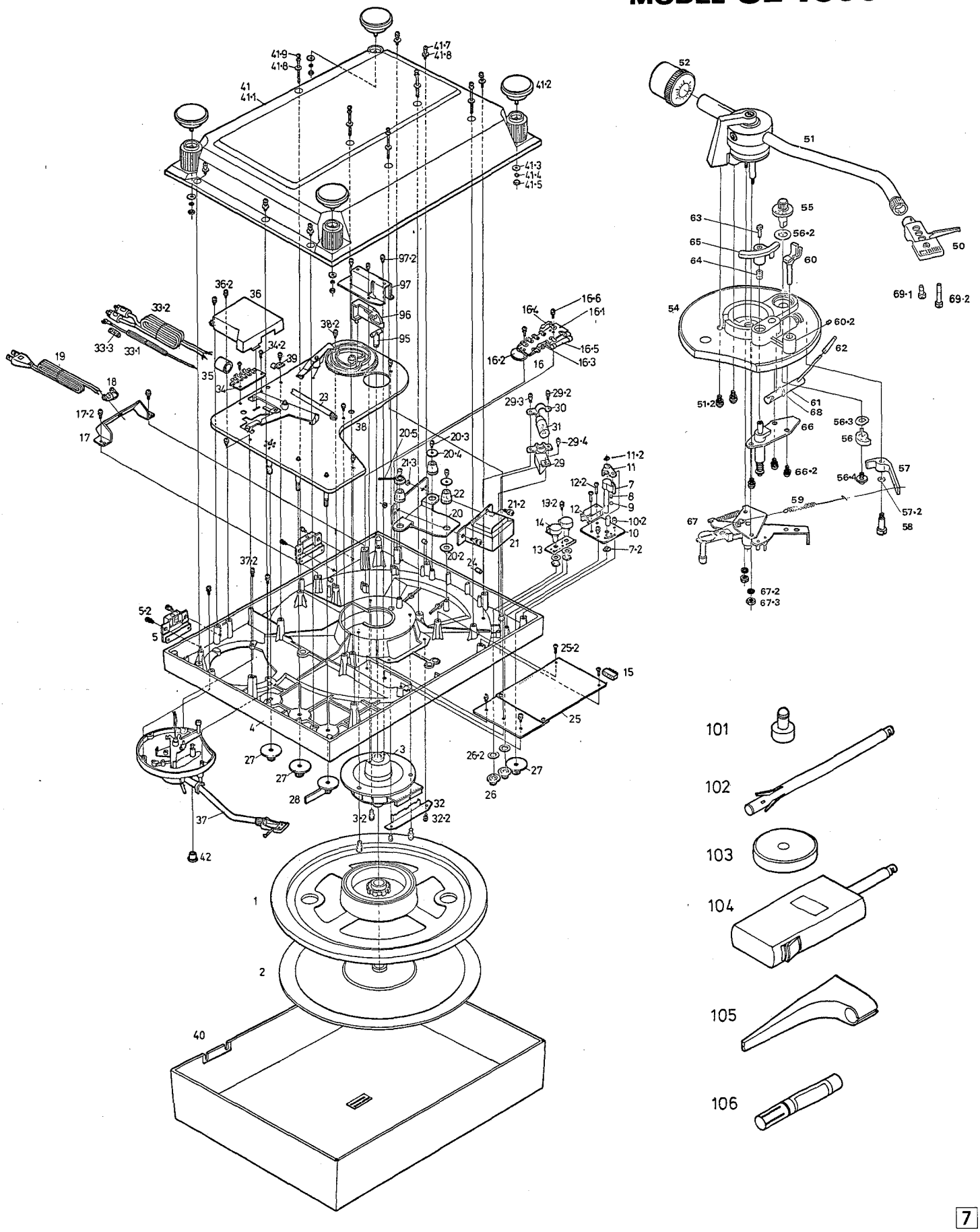


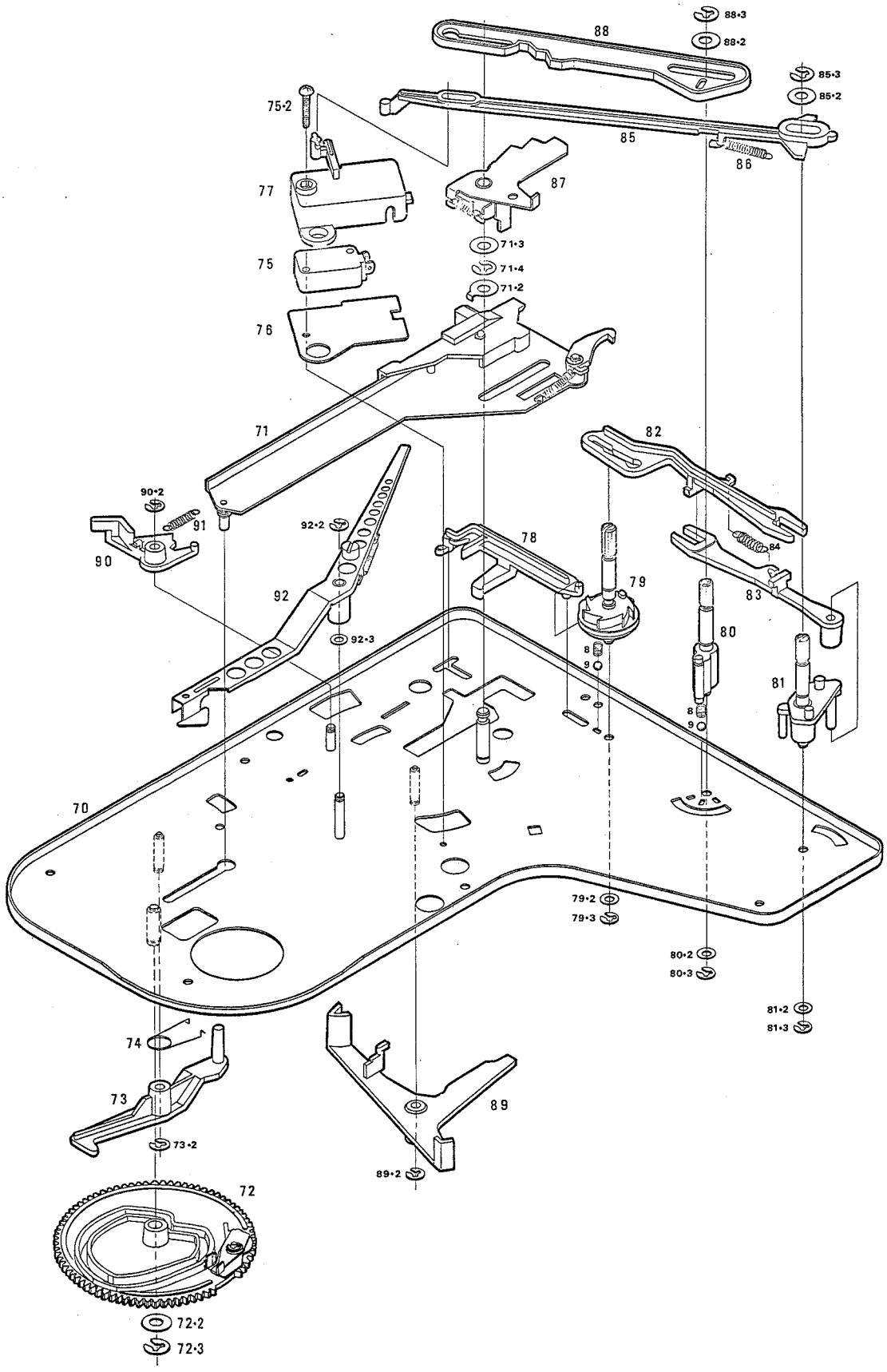
Fig. 6

MEMO

EXPLODED VIEW OF DIRECT DRIVE PLAYER

MODEL SL-1350

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PARTS LIST

Ref. No.	Part No.	Description	Per Set (Pcs.)	Remarks
1	SFTE135-01A	Turntable platter	1	○
2	SFTG135-01	Turntable mat	1	○
3	SFMZ135-01Z	Stater frame assembly	1	○
3-2	XYN4+C10FUS	Screw for stater frame	3	
4	SFAC135M01E	Player case	1	○
5	SFAT120-01E	Hinge assembly	2	
5-2	XTV3+8BFZ	Screw for hinge assembly	4	
7	SFUM130-02	Switch cam assembly	1	
7-2	**XUC4FT**	E-shaped ring	1	
8	SFQA130-11	Click spring	1	
9	SFYB5-32	Steel ball	1	
10	SFUP130-07E	Switch plate assembly	1	
10-2	XTN3+6BFU	Screw for switch plate	2	
11	SFUM130-03	Change lever for switch	1	
11-2	**XUC3FT**	E-shaped ring	1	
12	AM7620-44	Micro switch	1	
12-2	XTN3+16BFU	Screw for micro switch	2	
13	SFUP130-01	Mounting plate for variable resistor	1	
13-2	XTN3+6BFU	Screw for mounting plate	1	
14	EVHBOAK15B62	Variable resistor	2	
15	SFDJ12805S	5-pin connector	1	
16-1	SFUP110X04E	Terminal strip	1	
16-2	ECQM6473MZ	Capacitor	1	
16-3	ERD12TJ4R7	Carbon film resistor	1	
16-4	ERG2ANJ472	Carbon film resistor for strobo illuminator	1	
16-5	XBAS2B0201	Fuse	1	
16-6	XTN3+8BFU	Screw for terminal strip ass'y	2	
17	SFUP130-04	Fixing plate for AC power cord	1	
17-2	XTN3+8BFU	Screw for fixing plate	2	
18	SFHK040L	Bushing for AC power cord	1	
19	SPT-1	AC power cord	1	
20	SFUP130-03	Mounting plate for transformer	1	
20-2	SFXW120-02	Washer for mounting plate	1	
20-3	XYN3+C8FUS	Screw for mounting plate	3	
20-4	SFXW750-01	Washer for mounting plate	3	
20-5	SHE36	Cord holder	1	
21	MPT-006	Power transformer	1	
21-2	XYN4+C8FUS	Screw for transformer	2	
21-3	XNG4HFUS	Nut for transformer	2	
22	SFGC827M01	Cushion rubber for transformer	3	
23	SFEB6UT	Vinyle tube for transformer and mechanism black	1	
24	SFGZ120-02	Clamping rubber for lead wires	4	
25	SFDP130-01A	Circuit plate assembly	1	
25-2	XTN3+6BFU	Screw for circuit plate assembly	3	
26	SFKT130-01A	Variable pitch control knob ass'y	2	
26-2	SFUZ130-03	Felt for variable pitch control knob	2	
27	SFKT130-03A	Operation knob assembly	3	
28	SFKT130-05A	Start lever assembly	1	
29	SFUM130-01	Neon lamp base	1	
29-2	XTN3+8BFU	Screw for neon lamp	1	
29-3	XYN3+C6FZS	Screw for neon lamp	1	
29-4	XTV3+6BFU	Screw for neon lamp base	1	
30	SFUP130-05	Neon lamp holder	1	
31	SFDN130-01A	Neon lamp assembly	1	
32	SFUP130-06	Print base cover	1	
32-2	XTN3+6BFU	Screw for print base cover	2	
33-1	SFEL028-01E	Ground wire	1	
33-2	SFDH028-.01	Phono cable	1	
33-3	SFNZ029L1	Ground label	1	
34	SFER130-01	Terminal strip for phono cable	1	
34-2	XTN3+6BFU	Screw for terminal strip	2	
35	SFGT028-01	Cord clamper for phono cable	1	
36	SFUP130-08	Shield cover	1	
36-2	XTN3+6BFU	Screw for shield cover	2	
37-2	XYN3+C12FUS	Screw for tone arm assembly	3	
38	SP-135	Automatic mechanism assembly	1	
38-2	XTN3+8BFU	Screw for automatic mechanism assembly	6	
39	SFUP154A1	Clamper for AC cord	1	
40	SFAD135M01A	Dust cover assembly	1	○
41	SFAU135-01A	Bottom cover assembly	1	○
41-2	SFUM135-03A	Audio insulator assembly	4	○
41-3	SFXW022-01	Washer for audio insulator	4	
41-4	XWA3BF	Spring washer for audio insulator	4	
41-5	XNG6BFU	Nut for audio insulator	4	
41-7	XTN3+10BFZ	Screw for bottom cover	6	
41-8	SFXW120-01	Washer for bottom cover	11	
41-9	XTN3+50BFZ	Screw for bottom cover	5	
42	SFGK829-1	Cap, Rubber	1	
50	SFPCC13001K	Head shell assembly	1	
51	SFP-AM13003K	Arm unit assembly	1	○
51-2	XYN3+C12FU	Screw for arm base	2	
52	SFPWG15001K	Balance weight assembly	1	
54	SFPKD13002	Arm base	1	
55	SFPJK13001K	Anti-skating force control knob	1	
56	SFPJK13002	Canceler cam A	1	
56-2	SFPEW1100	Washer for canceler cam		
56-3	SFUPWR005	Washer for canceler cam	1	
56-4	XTW26+5DFU	Screw for canceler cam	1	
57	SFPJK13003	Canceler cam B	1	
57-2	SFXW551D2	Washer for canceler cam B	1	
58	SFPJK15002	Cam shaft	1	
59	SFPSP13001	Spring for canceler	1	
60	SFPRT13001K	Arm rest	1	
60-2	TT-3030NF	Screw for arm rest	1	
61	SFPJK13007K	Cueing lever assembly	1	
62	SFPAB12002	Knob for cueing lever	1	
63	SFXG829-1	Screw for adjustment of arm lift height	1	
64	SFQA829-03	Spring for arm lift	1	
65	SFPRT13003K	Arm lift	1	
66	SFPAB13008K	Arm lift base assembly	1	
66-2	XYN3+C5FU	Screw for arm lift base	3	
67	SFPAB13009K	Tone arm fixing plate assembly	1	
67-2	XWA3BFU	Spring washer for tone arm fixing plate	2	
67-3	XNG3HFU	Nut for tone arm fixing plate	2	
68	SFPGM13001	Cueing rubber	1	
69-1	SFCZV8800	Screw for cartridge	2	
69-2	SFPEV7800	Screw for cartridge	2	
70	SFUK135-11E	Automatic mechanism base	1	○
71	SFUB135-11A	Operating plate assembly	1	○
71-2	SFXW130-13	Washer for operating plate ass'y	1	○
71-3	SFXW890B01	Washer for operating plate ass'y	1	
71-4	**XUC5FT**	E-shaped ring for operating plate ass'y	1	
72	SFUG130-12A	Main gear assembly	1	○
72-2	SFXW890B01	Washer for main gear	1	
72-3	**XUC5FT**	E-shaped for main gear	1	
73	SFUM130-23	Gear setting plate	1	
73-2	**XUC3FT**	E-shaped ring for gear set plate	1	
74	SFQS130-11	Gear setting spring	1	
75	SFDS78009	Micro switch	1	
75-2	XTN3+20BFU	Screw for micro switch	1	
76	SFUP130-11	Insulating plate	1	
77	SFUM130-15	Cover for switch	1	
78	SFUM130-17	Start setting plate	1	
79	SFUM135-11	Repeat cam	1	○
79-2	SFXW829T01	Washer for repeat cam	1	
79-3	**XUC3FT**	E-shaped ring for repeat cam	1	
80	SFUM130-21	Select cam	1	
80-2	SFXW829T01	Washer for select cam	1	
80-3	**XUC3FT**	E-shaped ring for select cam	1	
81	SFUM130-22	Start cam	1	
81-2	SFXW829T01	Washer for start cam	1	
81-3	**XUC3FT**	E-shaped ring for start cam	1	
82	SFUM130-18	Start plate A	1	
83	SFUM130-19	Start plate B	1	
84	SFQH130-12	Spring for start plate	1	
85	SFUM130-26	Cut plate	1	
85-2	SFXW130-12	Washer for cut plate	1	
85-3	**XUC5FT**	E-shaped ring	1	
86	SFQH130-13	Spring for cut plate	1	
87	SFUP130-12E	Index plate assembly	1	
88	SFUM130-25	Select lever	1	
88-2	SFXW130-12	Washer for select lever	1	
88-3	**XUC5FT**	E-shaped ring for select lever	1	
89	SFUM130-24	Switch lever	1	
89-2	**XUC3FT**	E-shaped ring	1	
90	SFUM130-16	Supporting plate for switch	1	
90-2	**XUC3FT**	E-shaped ring for supporting plate	1	
91	SFQH910-11	Spring for supporting plate	1	
92	SFUC130-11E	Actuating plate assembly	1	
92-2	**XUC3FT**	E-shaped ring for actuating plate	1	
92-3	SFXW910J02	Washer for actuating plate	1	
95	SFUM135-02	Spindle connector	1	○
96	SFUM135-01	Spindle cam	1	○
97	SFUP135-01	Holder for spindle cam	1	○
97-2	XYN3+C8FU	Screw for holder	3	

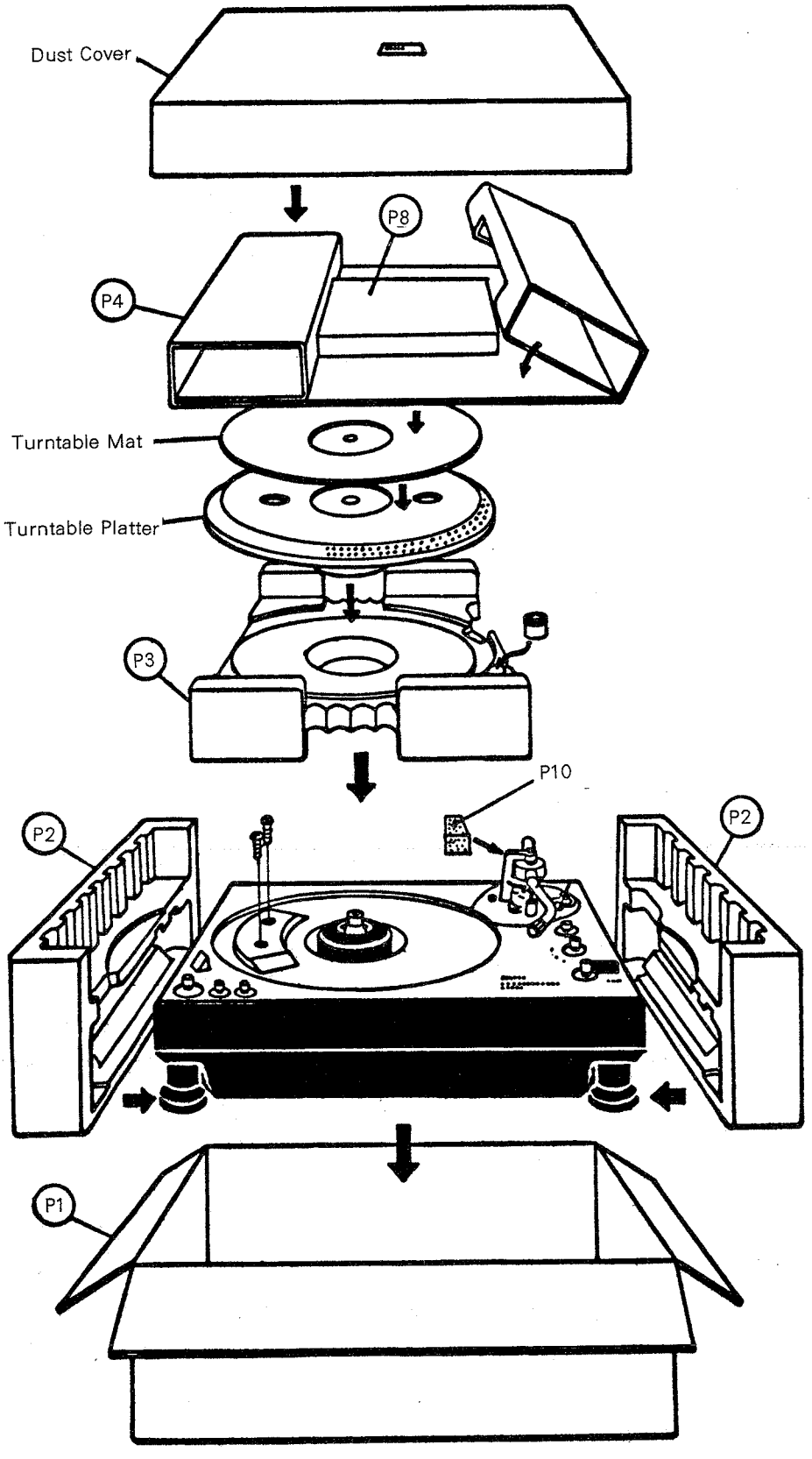
ACCESSORY PARTS

101	SFVS135-02	Manual Spindle		
102	SFVS135-01Z	Spindle assembly	1	○
103	SFWE154A1	45r.p.m manual spindle	1	○
104	SFVA135M01Z	45r.p.m. spindle	1	○
105	SFKO135M01E	Overhang gauge assembly	1	
106	SFWO010	Oil	1	

PACKING MATERIALS

P1	SFHP135M01	Packing case	1	○
P2	SFHH135-01	Side pad	2	○
P3	SFHH135-02	Turntable pad, Bottom	1	○
P4	SFHD135-02	Turntable pad, Top	1	○
P5	SFHD135-01	Magnet cover	1	○
P6	SFHH135-03	Part box	1	○
P7	SFHH135-04	Lid, part box	1	○
P8	SFHZ135-01	Case, part box	1	○
P9	SFNU135M01	Printed Matter	1	○
P9	SFNU135C01	Printed Matter (for Canada)	1	○
P10	SFHK100-1	Pad, Tone arm	1	

COMPONENT PACKING PROCEDURE



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